

In re Patent Application of

GUANG YANG

For

“Integrated Database Data Editing System”

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**STATEMENT CLAIMING SMALL ENTITY STATUS
(37 CFR 1.9(f) & 1.27(b))--INDEPENDENT INVENTOR**

Docket Number (Optional)

Applicant, Patentee, or Identifier: GUANG YANG

Application or Patent No.: _____

Filed or Issued: _____

Title: Integrated Database Data Editing System

As a below named inventor, I hereby state that I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees to the Patent and Trademark Office described in:

☒ the specification filed herewith with title as listed above.

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5 INTEGRATED DATABASE DATA EDITING SYSTEM

10 FIELD OF THE INVENTION

This invention relates to the field of computer database data integrated editing system, more specifically to a novel system and methods, which directly retrieve database text and binary data, modify the data and then send the data back to the original database through either intranet or Internet.

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BACKGROUND OF THE INVENTION

Computer database is the central data repository place for most software applications. The database stores data temperately or permanently, and in most cases the database data needs to be dynamically input, output, modified or updated frequently. In most business applications, especially the e-commerce applications such as product catalogues or product advertisement, the data stored in database is not only the text or character data, but also more likely the binary (or digital) data, such as image, audio, animation, video or compiled software program, etc. One of the best practices for network software applications is to separate the data contents and the data presentation, which means that the data contents need to be stored in database and then passed to the Windows Graphic User Interface (GUI) or web page for presentation. So, an efficient and easy-to-use database data editing system is urgently needed to input, output and edit the database data contents for these business software applications.

Most commercial relational databases, such as Oracle database and IBM DB2, support the Large Object (LOB) data types, which mainly include the Character Large Object (CLOB) and the Binary Large Object (BLOB). The CLOB data type supports text

file which can be selected to present a choice of fields to be viewed simultaneously on the same screen. The fields represent a collection of columns which are a subset of the columns of the entire file. The system presents selected columns of data in a narrow width to facilitate viewing, comprehending, and/or editing the data.

5 e.) No. 6,105,055, to Pizano et al., is related to a multimedia collaboration system combines unique multimedia communication and media processing mechanisms with off-the-shell components which support information sharing and distribution. More specifically, the system provides an asynchronous multimedia collaboration whiteboard that enables the creation of messages containing synchronized voice, graphics and mouse
10 gestures to describe conditions associated with an underlying multimedia object. On the server side, the system includes a delayed conference manager connected to a conference database, an email server, a newsgroup server and a web server. On the client side, the system includes a dynamic annotation editor which enables the use of synchronized voice, graphics and mouse gestures in the discussion. The client side also includes a
15 newsgroup and reader and a web browser.

The foregoing prior art presents several methods or systems for editing audio or video data, or retrieving or viewing database data. However, none of them give the mechanisms, versatility and advantages in the manner of the present invention.

20 SUMMARY OF THE INVENTION

This invention is directed to an integrated database data editing system that provides a visual environment and tools for database to input, output, modify and update the database data contents in an efficient and easy-to-use manner. This editing system is extremely useful for editing large database objects such as large text files, audio, image,
25 animation and video binary data files. The system consists of a computer server containing a relational database which supports large data objects and a computer client. The server and client are linked on either intranet or Internet. The client sends query to the database through the network to retrieve a set of the data, and materializes the data to display on the client screen either as the Windows Graphic User Interface (GUI) forms or
30 web pages. The data table displayed on the client screen is defaulted as read-only. When the mouse "single-clicks" on a table cell, the data of the cell can be directly edited by the

actions of inserting, overwriting, deleting, copying, pasting, etc. When the mouse "double-clicks" the table cell, a default data editor installed on the client computer is popped up depending on the data type of the cell. If the data is text or character data type, a Notepad or Wordpad pops up. If the data is binary image, an Image or Paint Shop
5 pops up. If the data is binary audio or video, a multimedia editor such as AudioStation 32, Animation Shop or VideoStudio pops up. A list of the data editors installed on the client computer is also provided to the user. The data file is then uploaded into the data editor, and the user edits the data by using the facilities provided by the editor. When the user finishes the data editing, the data file is directly saved and transferred to the remote
10 database through the network.

There are two implementing versions for the data editing system, a client/server version and a web version. The client/server version is installed and run on the intranet. The Window GUIs are implemented by using Java AWT, Swing, Applet, or alternately Visual C++, Visual Basic, etc. The query and data is transferred by SQL, JDBC/ODBC
15 between the client and the server database. The Database Data Manager form is similar to a Windows Explorer and contains a Header Panel and a Detail Panel. The Header Panel lists the database tables. The Detail Panel consists of several folders, which include the Entity Relationship Designer, Table Designer, Database Schema, Data Filter and SQL Console. When the mouse clicks a table name listed on the Header Panel, the
20 table contents are retrieved from the remote database and displayed on the screen as a Single Document Interface (SDI) table. The user can also select and click multiple table names, then the Multiple Document Interface (MDI) tables are displayed. The data on a table cell is default as read-only. The user single-clicks a cell to directly edit the data of the cell, and double-clicks a cell to pup up a data editor. The user can edit the data by
25 using the facilities provided by the data editor, and directly send the data back to the original database.

The web version of the data editing system consists of a server containing a database and a web server and a client with a browser. The editing system is mainly implemented by using Java technologies. The JDBC/ODBC is used to retrieve and
30 transfer data from the database, the Servlets and Java ServerPages are used to implement the middle ware, and the HTML, DHTML, JavaScript and Applets are used to implement

the web pages. The Database Data Manager page, similar to the Windows GUI Database Data Manager of the client/server version, is comprised of a Header Frame and a Detail Frame. When the user clicks a table name on the Header Frame table list, a new web page containing the table data is displayed. The data on the table cell is default as read-
5 only. When the user single-clicks a cell, the data can be directly edited, and the user double-clicks the cell, a data editor installed on the local client computer pops up. When the user finishes the data edition, the data is directly sent back to the original database through the Internet.

The other computer languages, such C++, C, Visual C++, Visual Basic, etc., can
10 also be used to implement both the client/server version and the web version of the editing system. The Secure Socket Layer (SSL), Secure Electric Transaction (SET) and Public Key Infrastructure (PKI) technologies are used for secure data transmission through the Internet. The user authentication and access control mechanisms are also used to identify the users.

15 BRIEF DESCRIPTION OF DRAWING

Figure 1 is a general schematic representation of the integrated database data editing system.

Figure 2 is a schematic representation of the client/server version of the integrated
20 database data editing system.

Figure 3 is a schematic representation of the detail mechanisms and Windows GUI forms of the client/server version of the integrated database data editing system.

Figure 4 is a schematic representation of the web version of the integrated
25 database data editing system.

DETAILED DESCRIPTION OF THE INVENTION

This invention represents an integrated database data editing system that provides a visual environment and tools to input, output, modify and update the database data contents in an efficient and easy-to-use manner. The data editing system is extremely
30 useful for editing large database objects such as large text file, audio, image, animation and video binary data files by using the incorporated commercial data editors. The data

very difficult to handle, and will greatly benefit the most business software applications and the general users. The Java technology is mainly used to implement the database data editing system of the present invention. Alternately, other computer languages, such C++, C, Visual C++, Visual Basic, etc., can also be used to implement both the

5 client/server version and the web version of the editing system. The user authentication and access control mechanisms of the database data editing system are well implemented. The Secure Socket Layer (SSL), Secure Electric Transaction (SET) and Public Key Infrastructure (PKI) technologies are used for secure data transmission through the Internet.